

# Integrated Testbed for Environmental Analysis of NextGen Concepts using ACES, Phase I

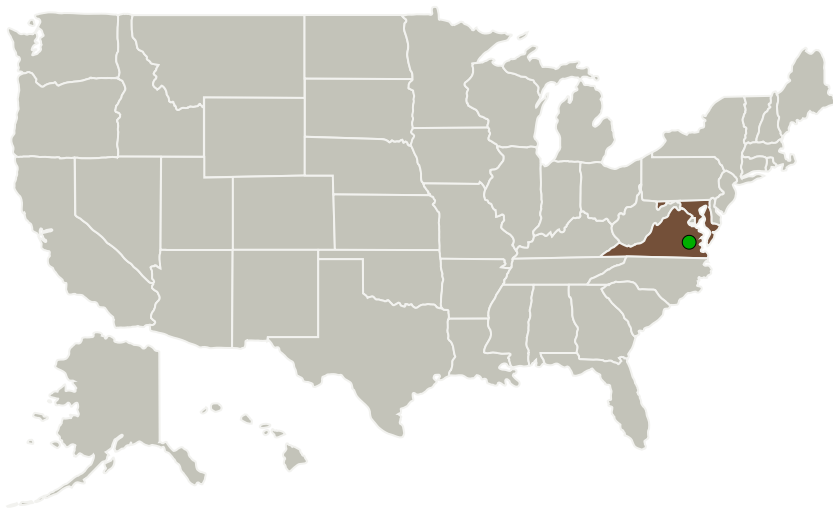
Completed Technology Project (2010 - 2010)



## Project Introduction

We propose the development of an analysis testbed to integrate simulation tools, such as ACES, with aviation environmental effects models, such as the Aviation Environmental Design Toolkit (AEDT), to provide a "360-degree" evaluation of new operational concepts. The testbed will be demonstrated by producing a "360-degree" evaluation of advanced NextGen concepts such as four-dimensional trajectories (4DTs), dependent arrivals to parallel or converging runways, continuous descent arrivals (CDAs), time-based merging and spacing, flow corridors, and many other NextGen operational improvements.

## Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
Intelligent Automation, Inc.	Lead Organization	Industry	Rockville, Maryland
● Langley Research Center(LaRC)	Supporting Organization	NASA Center	Hampton, Virginia

### Primary U.S. Work Locations

Maryland	Virginia
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## Project Transitions



**January 2010:** Project Start



**July 2010:** Closed out

**Closeout Summary:** Integrated Testbed for Environmental Analysis of NextGen Concepts using ACES, Phase I Project Image

**Closeout Documentation:**

- Final Summary Chart Image(<https://techport.nasa.gov/file/139953>)

## Organizational Responsibility

**Responsible Mission Directorate:**

Space Technology Mission Directorate (STMD)

**Lead Organization:**

Intelligent Automation, Inc.

**Responsible Program:**

Small Business Innovation Research/Small Business Tech Transfer

## Project Management

**Program Director:**

Jason L Kessler

**Program Manager:**

Carlos Torrez

**Principal Investigator:**

Frederick Wieland

**Co-Investigator:**

Frederick Wieland

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## Technology Maturity (TRL)

Start: **2**  
Current: **3**  
Estimated End: **3**



## Technology Areas

### Primary:

- TX01 Propulsion Systems
  - └ TX01.3 Aero Propulsion
    - └ TX01.3.1 Integrated Systems and Ancillary Technologies

## Target Destinations

The Sun, Earth, The Moon, Mars, Others Inside the Solar System, Outside the Solar System